In the Claims

Claim 1 (Currently amended): A method for modulating an immune response, comprising co-administering to a patient:

an effective amount of a nucleic acid sequence encoding p35 and p40 subunits of human IL-12, and ~~an operably linked~~ a promoter sequence operably linked to the nucleic acid sequence encoding the p35 and p40 subunits; ~~and~~

an effective amount of a nucleic acid sequence encoding human IFN-γ, and ~~an operably linked~~ a promoter sequence operably linked to the nucleic acid sequence encoding human IFN-γ; and

an antigen such that the co-administering results in an increase of Th1-type cytokine production, an increase of IgG2a ~~levels~~ specific to the antigen, a decrease of Th2-type cytokine production, and reduced serum IgE ~~levels~~.

Claim 2 (Cancel)

Claim 3 (Currently amended): The method of claim 1, wherein ~~the administering step includes selecting~~ the co-administering ~~IL-12 to comprise a p35 subunit and a p40 subunit,~~ results in expression of the p35 and the p40 subunits, the p35 subunit ~~to comprise an~~ comprising the amino acid sequence of SEQ ID NO:8, and the p40 subunit ~~to comprise an~~ comprising the amino acid sequence of SEQ ID NO:10.

Claims 4-5 (Cancelled)

Claim 6 (Currently amended): The method of claim 1, wherein ~~the administering step includes selecting~~ the co-administering ~~IFN-γ~~ results in expression of the human IFN-γ, and wherein the human IFN-γ comprises the ~~to comprise an~~ amino acid sequence of SEQ ID NO:12.

Claim 7 (Currently amended): The method of claim 1, wherein ~~the administering step includes selecting~~ the nucleic acid sequence ~~encoding~~ encoding the p35 and the p40 subunits of the human IL-12 ~~to comprise~~ comprises SEQ ID NO:7 and SEQ ID NO:9.

Claim 8 (Currently amended): The method of claim 1, wherein ~~the administering step includes selecting~~ the nucleic acid sequence ~~encoding~~ encoding the human IFN-γ ~~to comprise~~ comprises SEQ ID NO:11.

Claim 9 (Previously presented): The method of claim 1, wherein the nucleic acid sequences are administered with a pharmaceutically acceptable carrier.

Claim 10 (Cancelled)

Claim 11 (Previously presented): The method of claim 1, wherein the nucleic acid sequences are administered within separate DNA plasmids.

Claim 12 (Previously presented): The method of claim 1, wherein the nucleic acid sequences and promoter sequences are administered within a viral vector.

Claims 13-14 (Cancelled)

Claim 15 (Currently amended): The method of ~~claim 14~~ claim 1, wherein the antigen is selected from the group consisting of a protein, peptide, glycoprotein, carbohydrate, lipid, glycolipid, hapten conjugate, recombinant nucleotides, killed or attenuated organism, toxin, toxoid, and organic molecule.

Claims 16-17 (Cancelled)

Claim 18 (Currently amended): The method of ~~claim 14~~ claim 1, wherein the antigen is administered to the patient with the nucleic acid sequences and a pharmaceutically acceptable carrier.

Claim 19 (Original): The method of claim 1, wherein the patient is human.

Claims 20-42 (Cancelled)

Claim 43 (Currently amended): A method for modulating an immune response, comprising co-administering to a patient:

an effective amount of a plasmid comprising a nucleic acid sequence encoding p35 and p40 subunits of human IL-12, and ~~an operably linked~~ a promoter sequence operably linked to the nucleic acid sequence encoding the p35 and p40 subunits; ~~and~~

an effective amount of a plasmid comprising a nucleic acid sequence encoding human IFN-γ, and ~~an operably linked~~ a promoter sequence operably linked to the nucleic acid sequence encoding the human IFN-γ; and

an antigen, such that the co-administering results in an increase of Th1-type cytokine production, an increase of IgG2a ~~levels~~ specific to the antigen, a decrease of Th2-type cytokine production, and reduced serum IgE ~~levels~~.

Claim 44 (Cancel)

Claim 45 (Currently amended): The method of ~~claim 44~~ claim 43, wherein ~~the administering step includes selecting the antigen to comprise an allergen~~ the antigen comprises an allergen.

Claim 46 (Currently amended): The method of ~~claim 44~~ claim 43, wherein ~~the administering step includes selecting the antigen to comprise~~ the antigen comprises Kentucky blue grass (KBG) allergen extract.

Claim 47 (Currently amended): The method of claim 43, wherein ~~the administering step includes selecting~~ the operably linked ~~promoters to~~ promoter sequences comprise cytomegalovirus (CMV) promoters.

Claim 48 (Currently amended): The method of ~~claim 44~~ claim 43, wherein ~~the administering step includes selecting the antigen to comprise~~ the antigen comprises Kentucky blue grass (KBG) allergen extract, and the operably linked ~~promoters to~~ promoter sequences comprise cytomegalovirus (CMV) promoters.

Claim 49 (Previously presented): The method of claim 43, wherein the patient is human.

Claim 50 (Currently amended): The method of claim 43, wherein ~~the administering step includes selecting~~ the co-administering ~~IL-12 to comprise~~ results in expression of the p35 and the p40 subunits, the p35 subunit comprising the amino acid ~~sequences~~ sequence of SEQ ID NO:8 ~~and SEQ ID NO:10~~, and ~~the IFN-γ to comprise~~ the p40 subunit comprising ~~an~~ the amino acid sequence of ~~SEQ ID NO:12~~ SEQ ID NO:10.

Claim 51 (Cancelled)

Claim 52 (Previously presented): The method of claim 43, wherein the patient suffers from a condition selected from the group consisting of allergy, allergic rhinitis, atopic dermatitis, asthma, allergic sinusitis, pulmonary fibrosis, and cancer.

Claim 53 (Currently amended): The method of claim 43, ~~further comprising administering an antigen to the patient,~~ wherein the plasmids are administered by a route selected from the group consisting of intramuscularly, orally, and intranasally.

Claim 54 (Currently amended): A pharmaceutical composition comprising a plasmid comprising a nucleic acid sequence encoding p35 and p40 subunits of human IL-12, and ~~an operably~~

~~linked~~ a promoter sequence operably linked to the nucleic acid sequence encoding the p35 and p40 subunits;

a plasmid comprising a nucleic acid sequence encoding human IFN-γ and ~~an operably linked~~ a promoter sequence operably linked to the nucleic acid sequence encoding the human IFN-γ;

and a pharmaceutically acccptable carrier.

Claim 55 (Currently amended): The pharmaceutical composition of claim 54, wherein ~~said~~ the composition further eomprises an antigen.

Claim 56 (Currently amended): The pharmaceutical composition of claim 55, wherein ~~said~~ the antigen is an allergen.

Claim 57 (Currently amended): The pharmaceutical composition of claim 54, wherein ~~said~~ the nuclcic acid scquencc encoding the p35 and p40 subunits of the human IL-12 ~~comprises~~ rcsults in expression of the subunits, wherein the subunits comprise the amino acid sequences of SEQ ID NO: 8 and SEQ ID NO:10, and wherein ~~said~~ the nucleic acid sequence encoding the human IFN-γ ~~comprises the~~ results in expression of the human IFN-γ, wherein the human IFN-γ comprises the amino acid sequence of SEQ ID NO:12.

Claim 58 (Currently amended): The method of claim 1, wherein the nucleic acid sequence encoding the p35 and p40 subunits of the human IL-12 and the nucleic acid sequence encoding the human IFN-γ are ~~administered~~ co-administered to the patient through a mucosal route.

Claim 59 (Cancel)

Claim 60 (Currently amended): The method of claim 1, wherein the nucleic acid sequence encoding the p35 and p40 subunits of the human IL-12 and the nucleic acid sequcnce encoding the human IFN-γ are ~~administered~~ co-administered to the patient intranasally.

Claim 61 (Cancel)

Claim 62 (Currently amended): The method of claim 43, wherein the plasmids are ~~administered~~ co-administered to the patient through a mucosal route.

Claim 63 (Cancel)

Claim 64 (Currently amended): The method of claim 43, wherein the plasmids are ~~administered~~ co-administered to the patient intranasally.

Claim 65 (Cancel)

Claim 66 (Previously presented): The method of claim 1, wherein the patient suffers from a condition selected from the group consisting of allergy, allergic rhinitis, atopic dermatitis, asthma, allergic sinusitis, pulmonary fibrosis, and cancer.

Claim 67 (Cancel)

Claim 68 (Currently amended): The pharmaceutical composition of ~~claim 54~~ claim 55, wherein ~~said~~ the composition increases Th1-type cytokine production, increases IgG2a specific to the antigen, decreases Th2-type cytokine production, and reduces serum IgE *in vivo*.

Claim 69 (New): The pharmaceutical composition of claim 54, wherein the nucleic acid sequence encoding the p35 and p40 subunits of human IL-12 comprises SEQ ID NO: 7 and SEQ ID NO: 9.

Claim 70 (New): The pharmaceutical composition of claim 54, wherein the nucleic acid sequence encoding human IFN-γ comprises SEQ ID NO: 11.

Claim 71 (New): The method of claim 43, wherein the nucleic acid sequence encoding the p35 and p40 subunits of human IL-12 comprises SEQ ID NO: 7 and SEQ ID NO: 9.

Claim 72 (New): The method of claim 43, wherein the nucleic acid sequence encoding human IFN-γ comprises SEQ ID NO: 11.

Claim 73 (New): The method of claim 1, wherein the nucleic acid sequences are administered by a route selected from the group consisting of intramuscularly, orally, and intranasally.